"If you can see it (lightning), flee it (take shelter)."

"If you can hear it (thunder), clear it (suspend activities)."

AIRCRAFT MISHAPS & UPSETS

More than 50% of military aircraft weather-related in-flight mishaps are caused by lightning.

-*Major P.B. Corn, Air Force Flight Dynamics Lab.*

AIRCRAFT MISHAPS & UPSETS

During 1988-1996, the US Air Force had direct costs of $1,577,960 due to lightning damage to aircraft.

- *US Air Force Safety Center, Albuquerque NM.*

AIRCRAFT MISHAPS & UPSETS

Lightning costs about $2 billion annually in airline operating costs and passenger delays.

-NOAA Report No. 18, MIT, 13 Feb. 1998

NUMBER OF DEATHS BY NATURAL HAZARDS, 1940-1981

LIGHTNING	7,741
TORNADO	5,268
FLOOD	4,481
HURRICANE	1,923

6 COMMON MISCONCEPTIONS AND MYTHS

1. Lightning never strikes twice…

It strikes the Empire State Building in NYC some 22-25 times per year !

6 COMMON MISCONCEPTIONS AND MYTHS

2. Rubber tires or a foam pad will insulate me from lightning…

It takes about 10,000 volts to create a one inch spark. Lightning has millions of volts and easily can jump 10-20 feet !

6 COMMON MISCONCEPTIONS AND MYTHS

3. Lightning rods will protect my ropes course…

Lightning rods are "preferential attachment points" for lightning. You do not want to "draw" lightning to any area with people nearby.

6 COMMON MISCONCEPTIONS AND MYTHS

4. We should get off the water when boating, canoeing or sailing…

Tall trees and rocky outcrops along shore and on nearby land may be a more dangerous place.

6 COMMON MISCONCEPTIONS AND MYTHS

5. A cave is a safe place in a thunderstorm…

If it is shallow cave, or an old mine with metallics nearby, it can be a deadly location during lightning.

6 COMMON MISCONCEPTIONS AND MYTHS

6. Injured persons carry an electrical charge…

INJURED PERSONS do not carry an electrical charge and can be handled safely. Apply First Aid procedures to a lightning victim if you are qualified to do so. Call 911 or send for help immediately

Top 10 lasting symptoms suffered by lightning strike victims

Symptom	% of victims
Memory Deficits & Loss	52%
Depression	32%
Attention Deficits	41%
Inability to Sit Long	32%
Sleep Disturbance	44%

Top 10 lasting symptoms Continued

Symptom	% of victims
External Burns	32%
Numbness/Parathesias	36%
Severe Headaches	32%
Dizziness	38%
Fear of Crowds	29%

Of Those Reported

- 85% of lightning victims are children and young men ages 10-35 engaged in recreation or work.
- 25% of strike victims die
- 70% of survivors suffer serious long-term after effects.
- Beyond this an unknown number of injuries do not require hospitalization.

Strike Locations

40% Unreported.
27% Open fields & recreation areas (not golf).
14% Under trees (not golf).
8% Water-related (boating, fishing, swimming…).
5% Golf/golf under trees.
3% Heavy equipment and machinery-related.
2.4% Telephone-related.
0.7% Radio, transmitter & antenna-related.

More Facts

Gender = 84% male; 16%female.

70% of strikes happen between June and August.

Most strike occur between 2 PM to 6PM

Number of victims = One (91%), two or more (9%)

More Facts

- **Deaths by State, Top Five:**
  - **FL, MI, TX, NY, TN**
- **Injuries by State, Top Five:**
  - **FL, MI, PA, NC, NY**

SAFETY TIPS

- ***PLAN*** *in advance your evacuation and safety measures*
  - **IF OUTDOORS…**Avoid water. Avoid the high ground. Avoid open spaces.
  - **IF INDOORS…** Avoid water. Stay away from doors and windows. Do not use the telephone. Take off head sets

SAFETY TIPS

- ***SUSPEND ACTIVITIES*** *for 30 minutes after the last observed lightning or thunder.*
- **INJURED PERSONS** do not carry an electrical charge and can be handled safely

SAFETY TIPS

- If lightning is striking nearby when you are outside, you should:
  - ***Crouch down***. Put feet together. Place hands over ears to minimize hearing damage from thunder.
  - ***Avoid proximity*** (minimum of 15 ft.) to other people.

Flash/Bang

- By referencing the time in seconds from seeing the lightning (the FLASH, or "F") to hearing the accompanying thunder (the BANG, or "B"), we can range lightning's distance. A "F" to "B" of five seconds equals lightning distance being one mile away. A "F" to "B" of ten = two miles; a "F" to "B" of twenty = four miles; etc.

New information

- Shows successive, sequential lightning strikes (distances from Strike 1 to Strike 2 to Strike 3) can be some 6-8 miles apart.
- Taking immediate defensive actions is recommended when lightning is indicated within 6-8 miles. The next strike could be close enough to be an immediate and severe threat.

3 FINAL TIPS

1. **AVOID:** Avoid water. Avoid all metallic objects. Avoid the high ground. Avoid solitary tall trees. Avoid close contact with others - spread out 15-20 ft. apart. Avoid contact with dissimilar objects (water & land; boat & land; rock & ground; tree & ground). Avoid open spaces.

2 FINAL TIPS

2. SEEK: Seek clumps of shrubs or trees of uniform height. Seek ditches, trenches or the low ground. Seek a low, crouching position with feet together with hands on ears to minimize acoustic shock from thunder.

FINAL TIP

3. KEEP: Keep a high level of safety awareness for thirty minutes after the last observed lightning or thunder

- **If you still want more:**
  - WWW. Lightningsafety.com
  - (National Lightning Safety Institute)